



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,216	02/05/2002	Neil S. Wester	42390P6169D	2708
8791	7590	05/23/2005	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			MALSAWMA, LALRINFAMKIM HMAR	
		ART UNIT		PAPER NUMBER
				2823

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/072,216	WESTER, NEIL S.
	Examiner Lex Malsawma	Art Unit 2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 22 April 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-17 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-17 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 05 February 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 22, 2005 has been entered.

Claim Objections

2. Claims 13, 14 and 15-17 are objected to because of the following informalities:

Regarding claims 13 and 14:

These claims depend directly (or indirectly) from claim 4, however, it seems clear they should depend from claim 10 instead. Accordingly, claim 13 has been interpreted as depending from claim 10 instead of the currently recited “claim 4”.

Regarding claim 15:

In line 1, “devices” should read “integrated circuits”.

Regarding claims 16 and 17:

In the last line of each claim, “devices” should read “integrated circuits”.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 4, 10, 12 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakuma (5,157,001).

Regarding claims 1, 4, 10, 12 and 17:

Sakuma discloses an apparatus comprising:

a plurality of devices/integrated circuits 3 formed on a substrate/wafer 1, each integrated circuit mapped on the surface of a wafer adjacent a scribe line area 5 (Fig. 1 and Col. 4, lines 14-21);

the scribe line area 5 separating each of the plurality of devices 3;
a masking material 14 overlying a portion of the scribe line area 5,
wherein process operations of material removal are completed and the apparatus is in a condition to be singulated (note Figs. 1-2),

wherein the masking material 14 has a thickness similar to the thickness of a device portion 2 (Fig. 1, i.e., oxide 2 is a “device portion” within “element region 3” that has a thickness similar to that of masking material 14); and

wherein the masking material comprises a plurality of discrete structures occupying less than the entire portion of the scribe line area 5 adjacent the plurality of integrated circuits 3 (Fig. 1). *Specifically regarding claim 17:* Note that each scribe line area will include a discrete structure 14, accordingly, a plurality of discrete structures will be formed in a plurality of scribe lines, i.e., claim 10 recites a scribe line area for each integrated circuit, accordingly, the scribe line area adjacent the plurality of integrated circuits will have a plurality of discrete structures (i.e., masking material “14”). Therefore, Sakuma anticipates these claims.

5. Claims 1, 7, 10 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Ormond et al. (5,521,125; hereinafter “Ormond”).

Regarding claims 1, 7, 10 and 15:

Ormond discloses an apparatus comprising:
a plurality of devices/integrated circuits 12 formed on a substrate/wafer 10, each integrated circuit mapped on the surface of a wafer adjacent a scribe line area 14 (Fig. 1-2 and note in Col. 1, lines 13-21, Ormond’s disclosure is applicable to at least a photosensitive array, i.e., an integrated circuit with a sensor portion);

the scribe line area 12 separating each of the plurality of devices (Fig. 2);

a masking material 40 overlying a portion of the scribe line area 14 (Fig. 4),

wherein process operations of material removal are completed and the apparatus is in a condition to be singulated (note Fig. 4 and Col. 5, lines 17-45); and

wherein each of the plurality of devices 12 will inherently comprise a sensor portion because Ormond's disclosure is specifically applicable to at least a photosensitive array. Therefore, Ormond anticipates these claims.

6. Claims 1, 8, 10 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Motoooka et al. (6,207,477 B1; hereinafter "**Motoooka**").

Regarding claims 1, 8, 10 and 16:

Motoooka discloses an apparatus comprising:

a plurality of devices/integrated circuits 5 formed on a substrate/wafer 2A, each integrated circuit mapped on the surface of a wafer adjacent a scribe line area 51 (Fig. 5C and Col. 5, line 21);

the scribe line area 51 separating each of the plurality of devices;

a masking material 1 overlying a portion of the scribe line area 51 (Fig. 5E),

wherein process operations of material removal are completed and the apparatus is in a condition to be singulated (note Figs. 5E-5F); and

wherein the masking material 1 overlies the entire portion of the scribe line area adjacent the plurality of devices. Therefore, Motoooka anticipates these claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sakuma** (5,157,001) in view of **Sakamoto** (5,714,790).

Regarding claims 2 and 11:

Sakuma anticipates claims 1 and 10 but **lacks** specifically disclosing that the masking material 14 is transparent. However, note that Sakuma discloses that masking material 14 is an oxide similar to LOCOS oxide film 2 (Col. 4, lines 12-14 and 29-31). Sakamoto is **cited only** to clearly show that an oxide formed by LOCOS is transparent (note Col. 3, lines 25-29). Given Sakamoto, it would have been readily obvious to one of ordinary skill in the art to modify Sakuma by specifically reciting that the masking material 14 is transparent because material "14" is a LOCOS oxide and Sakamoto clearly shows that a LOCOS oxide is transparent. Therefore, these claims are held obvious over the cited references (if not anticipated by Sakuma alone).

9. Claims 1, 5, 6, 9, 10, 13 (as interpreted) and 14 (as interpreted) are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimomura et al. (5,747,790; hereinafter "**Shimomura**") in view of **Sakuma** (5,157,001).

Regarding claims 1, 5, 6, 9, 10, 13 and 14:

Shimomura discloses an apparatus comprising:

a device/integrated circuit (IC) formed on a substrate/wafer 28, each integrated circuit mapped on the surface of a wafer adjacent a scribe line area 30 (Fig. 18 and Col. 6, lines 64-65).

NOTE: Although Shimomura shows only one IC, it will be understood by one of ordinary skill in the art that a plurality of devices/ICs will be formed on the substrate 28);

the device/IC comprising as one material layer 39, a material comprising one of a colorant comprising a pigment (Fig. 18; Col. 12, lines 36-37; and Col. 14, lines 38-43).

Shimomura **lacks** a masking material overlying a portion of the scribe line area 30 wherein material-removal operations are completed and the apparatus is in a condition to be singulated. However, it is important to note that Shimomura does not specify when or how the substrate/wafer is (or will be) singulated; accordingly, one of ordinary skill in the art would incorporate any known method for singulating Shimomura's substrate/wafer. Sakuma **teaches** one known method for singulating a wafer, wherein the method incorporates a masking layer 14, overlying a portion of a scribe line area 5, in order to prevent the wafer from cracking during the singulating process (note Figs. 1-2 and Col. 4, lines 44-52). It would have been obvious to one of ordinary skill in the art to modify Shimomura by incorporating a masking layer as taught by Sakuma because the masking layer would prevent cracks from forming during a singulation process. *Specifically regarding claim 9:* Note that Sakuma discloses the masking material 14 comprises a discrete structure occupying less than the entire portion of the scribe line area 5, accordingly, a plurality of scribe line areas will have a plurality of discrete structures, i.e., the limitation in claim 9 is similar to that in claim 17 –note the explanation given above for claim 17 in section “4” (i.e., see “*Specifically regarding claim 17*” in section “4”).

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ormond** (5,521,125) in view of Angelopolus et al. (5,300,403; hereinafter “**Angelopolus**”).

Regarding claim 3:

Ormond anticipates claim 1 but **lacks** the masking material specifically comprising an acrylate moiety. However, note that Ormond generally discloses that the masking material 40 comprises polyimide (Col. 5, lines 20-21). Angelopolus **teaches/shows** that polyimide precursors commonly include an acrylate moiety (note Col. 3, lines 55-59). Therefore, it would have been readily obvious to one of ordinary skill in the art to modify Ormond by specifically reciting that the masking material comprises an acrylate moiety because Angelopolus teaches/shows that the masking material (polyimide) specified by Ormond commonly includes an acrylate moiety.

Remarks

11. Applicant's remarks/arguments have been fully considered but they are moot in view of the new grounds of rejections presented in this Office Action.
12. Claims 1-17 are pending, however, all claims are currently rejected under 35 USC § 102 and/or 35 USC § 103.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lex Malsawma whose telephone number is 571-272-1903. The examiner can normally be reached on Mon. - Thur. (4-12 hours between 5:30AM and 10 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lex Malsawma 

May 18, 2005

